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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,245	05/02/2001	Roy Haworth	60426-253.2000P07632US01	5045

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SIEMENS CORPORATION
INTELLECTUAL PROPERTY LAW DEPARTMENT
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EXAMINER

WOO, STELLA L

ART UNIT PAPER NUMBER

2643

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,245

Applicant(s)

HAWORTH ET AL.

Examiner

Stella L. Woo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Everingham (US 5,828,759).

Regarding claim 1, Everingham discloses an air induction system (Fig. 1) comprising:
an air induction body (main air duct housing 12) having a mouth (large diameter end which frame 18 is attached; col. 2, lines 26-30);

a speaker (speaker 30), said speaker for propagating a sound field along an axis (speaker 30 propagates a sound field along a horizontal axis within air duct housing 10; see Figure 1); and
a microphone (microphone 42 is connected to main air duct housing 12 via rigid frame 18; col. 2, lines 60-64), said rigid support positioning said microphone in the sound field (microphone 42 is positioned just upstream of the annular space 26, within the air duct housing 10, approximately in the plane of the front of the speaker cone 32; col. 2, lines 60-64).

Regarding claim 2, Everingham provides for a control unit (broadband amplifier 44; col. 2, line 65 – col. 3, line 9).

Regarding claim 19, Everingham discloses an air induction system (Fig. 1) comprising:
an air induction body (main air duct housing 12), having a mouth (large diameter end which frame 18 is attached; col. 2, lines 26-30);

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a speaker (speaker 30), said speaker operatively connected to said air induction body (speaker 30 is contained within speaker enclosure 22, which is supported within the large end of the main air duct housing section 12 by a series of tab 21 projecting from an inner rim 24 of frame 18; col. 2, lines 33-35), having a face (face of speaker cone 32);

a microphone operatively connected to said air induction body by a rigid support (microphone 42 is connected to main air duct housing 12 via rigid frame 18; col. 2, lines 60-64) spaced a predetermined distance from said face (microphone 42 is positioned in the plane of the front of the speaker cone 32; Figure 1; col. 2, lines 60-64; col. 3, lines 10-13) wherein said predetermined distance relates to the location of the sound field emitted by said speaker (microphone 42 is positioned in the plane in front of speaker cone 32 such that it is within the sound field propagated by speaker cone 32); and

a control unit (broadband amplifier 44; col. 2, line 65 – col. 3, line 9).

Regarding claim 20, the frame 18 allows air flow into annular space 26 and does not comprise material which would absorb sound, such that it can be considered acoustically transparent (see Figure 2; col. 2, lines 45-48)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everingham (US 5,828,759) in view of McLean (US 6,084,971).

Everingham differs from claims 3-4, 6-8, 10-11, 15-17 in that it does not specify the supporting frame 18 extending transversely relative to the speaker face or suspending the microphone 42 over the speaker face. However, McLean, from the same field of endeavor, teaches the desirability of positioning a microphone over the face of a speaker (error microphone 40 is positioned at a distance directly in front of the face of loudspeaker 32; Figure 1) such that it would have been obvious to an artisan of ordinary skill to incorporate such placement of the microphone in front of the speaker face, as taught by McLean, within the system of Everingham by modifying frame 18 by extending the frame 18 along the horizontal axis and positioning the microphone 42 on frame 18 in order to suspend microphone 42 at a distance over the face of the speaker cone 32.

Regarding claims 2, 11, microphone 42 is connected to the large diameter end of main air duct housing 12 via frame 18 (Figure 1; col. 2, lines 60-64).

Regarding claims 7-8, 15-17, note radial legs 28 (see Figure 2).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Everingham in view of Shipps et al. (US 6,072,880, hereinafter "Shipps").

Everingham differs from claim 5 in that it does not specify a screen spanning at least a portion of the mouth. However, Shipps teaches the desirability of placing a screen across the mouth of an air induction enclosure (enclosure 12 includes a port 22 which is covered by a screen 114 to prevent debris from entering the enclosure; col. 7, lines 56-61; Figure 1) such that it would have been obvious to an artisan of ordinary skill to incorporate the use of a screen, as

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taught by Shipps, within the air induction system of Everingham in order to prevent debris from entering the air duct housing.

6. Claims 9, 12, 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everingham in view of McLean, as applied to claims 8, 10 and 17 above, and further in view of Shipps.

The combination of Everingham and McLean differs from claim 12 in that it does not specify a flex cable communicating with the speaker. However, Shipps teaches the well known use of a flex cable (col. 4, lines 59-62; col. 10, lines 48-50) for connecting the speaker in an active exhaust silencing system such that it would have been obvious to an artisan of ordinary skill to use a flex cable, as taught by Shipps, within the air induction system of Everingham and McLean for providing connection to the speaker.

The combination of Everingham and McLean differs from claims 9, 14, 18 in that it does not specify a screen spanning at least a portion of the mouth. However, Shipps teaches the desirability of placing a screen across the mouth of an air induction enclosure (enclosure 12 includes a port 22 which is covered by a screen 114 to prevent debris from entering the enclosure; col. 7, lines 56-61; Figure 1) such that it would have been obvious to an artisan of ordinary skill to incorporate the use of a screen, as taught by Shipps, within the air induction system of Everingham and McLean in order to prevent debris from entering the air duct housing.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Everingham in view of McLean, and further in view of Cain et al. (US 5,457,749, hereinafter "Cain").

The combination of Everingham and McLean differs from claim 13 in that it does not specify frame 18 as being plastic. However, Cain teaches the desirability of using plastic to

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support a microphone assembly in an engine noise cancellation system because plastic is an inexpensive material yet capable of withstanding high temperatures and severe weather conditions (col. 3, line 66 – col. 4, line 2; col. 5, lines 49-50; col. 6, lines 60-62). It would have been obvious to an artisan of ordinary skill to incorporate the use of plastic, as taught by Cain, as the material for constructing the frame of Everingham and McLean in order to take advantage of the inexpensive yet durable properties of plastic.

Response to Arguments

8. Applicant's arguments filed December 16, 2004 have been fully considered but they are not persuasive. Applicant argues that Everingham does not teach the positioning of microphone in the sound field created by speaker 30. However, Figure 1 clearly shows microphone 42 within the space identified as 34, which receives the sound field generated by speaker 30. Furthermore, in column 2, lines 60-64, Everingham teaches the microphone 42 being located in the plane of the front of the speaker cone 32, thus, in the sound field emanating from speaker cone 32.

9. Applicant's arguments with respect to claims 3-4, 6-18 have been considered but are moot in view of the new grounds of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

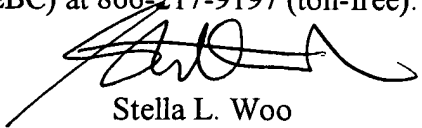
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stella L. Woo whose telephone number is (571) 272-7512. The examiner can normally be reached on Monday-Tuesday, Thursday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stella L. Woo
Primary Examiner
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